AMENDMENTS TO THE CLAIMS

Please cancel claims 1-22 and add new claims 23-42 as indicated in the listing of claims below. This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS

Claim 1 -22 (canceled)

23. (new) A method of modulating physiological and pathophysiological conditions mediated by androgens in a mammal, comprising the step of administering to the mammal an effective amount of an enantiomeric equol that can bind with free 5α-dihydrotestosterone, thereby inhibiting the binding of 5α-dihydrotestosterone with the androgen receptors in the mammal and mediating the conditions mediated by the androgen.

24. (new) The method according to Claim 23, wherein the physiological and pathophysiological conditions is selected from the group consisting of: benign prostatic hyperplasia, prostate cancer, male and female pattern baldness, facial and body hair, acne, excessive secretion of sebum from the sebaceous glands, skin effects, anti-aging, anti-photoaging, skin integrity, skin pigmentation, skin whitening, Alzheimer's disease, emotions and mental health, depression, anxiety, Tourette's disease, Kennedy's syndrome, congenital defects in steroidal hormone synthesis and metabolism involving androgens, obesity, body weight, lipid and cholesterol levels, lipogenesis, lipolysis, inhibiting insulin resistance, blood pressure, thyroid function, and cardiovascular disease.

25. (new) The method according to Claim 23 wherein the equol is administered as an oral composition comprising at least 1 mg enantiomeric equol.

26. (new) The method according to Claim 23 wherein the equol is administered as a topical composition comprising at least 0.1% enantiomeric equol.

27. (new) The method according to Claim 23, wherein the equol is administered as a composition comprising essentially the R-equol enantiomer.

28. (new) The method according to Claim 23, wherein the equol is administered as a composition comprising essentially the S-equol enantiomer.

29. (new) The method according to Claim 23 wherein the equol is administered as a composition comprising a non-racemic mixture of R-equol and S-equol enantiomers.

30. (new) A method of treating and preventing an androgen-related disease in a mammal, comprising the step of administering to the mammal an effective amount of an enantiomeric equol that can bind with free 5α-dihydrotestosterone, thereby inhibiting the binding of the 5α-dihydrotestosterone with the androgen receptors in the mammal.

31. (new) The method according to Claim 30, wherein the androgen-related disease is selected from the group consisting of: benign prostatic hyperplasia, prostate cancer, male and female pattern baldness, facial and body hair, acne, excessive secretion of sebum from the sebaceous glands, skin effects, anti-aging, anti-photoaging, skin integrity, skin pigmentation, Alzheimer's disease, abnormal emotions and mental health, depression, anxiety, Tourette's disease, Kennedy's syndrome, congenital defects in steroidal hormone synthesis and metabolism involving androgens, obesity, body weight, abnormal lipid and cholesterol levels, excessive lipogenesis, lipolysis, inhibiting insulin resistance, high blood pressure, thyroid function, and cardiovascular disease.

32. (new) The method according to Claim 30, wherein the equol is administered as a composition comprising essentially the R-equol enantiomer.

33. (new) The method according to Claim 30, wherein the equol is administered as a composition comprising essentially the S-equol enantiomer.

34. (new) The method according to Claim 30 wherein the equol is administered as a composition comprising a non-racemic mixture of R-equol and S-equol enantiomers.

35. (new) The method according to Claim 30 wherein the equol is administered as an oral composition comprising at least 1 mg enantiomeric equol.

36. (new) The method according to Claim 30 wherein the equol is administered as a topical composition comprising at least 0.1% enantiomeric equol.

37. (new) The method according to Claim 30 wherein said composition does not comprise a significant amount of any other androgen-receptor binding compound.

38. (new) A method of treating and preventing a combination of an androgen-related condition and an estrogen-related condition in a mammal, comprising the step of administering to a mammal an effective amount of a mixture of R-equol and S-equol, that can bind with free 5α-dihydrotestosterone, and with free 5α-dihydrotestosterone and the estrogen receptor, respectively, thereby inhibiting the binding of the 5α-dihydrotestosterone with the androgen receptors, and affecting binding of the estrogen receptors.

39. (new) The method according to Claim 38 wherein the combination of androgen-related and estrogen-related conditions comprises an age-related androgen/estrogen hormonal balance, the method further comprising the step of determining the mammal's endocrine androgen/estrogen hormone balance, and wherein administering the mixture of R-equol and S-equol can modulate the hormone balance of 5α-dihydrotestosterone and estrogen.

40. (new) The method according to Claim 38 wherein the mixture of equol is administered as an oral composition comprising at least 1 mg equol.

41. (new) The method according to Claim 38 wherein the mixture of equol is administered as a topical composition comprising at least 0.1% equol.

42. (new) The method according to Claim 38 wherein the mixture of equol is administered as a composition comprising a non-racemic mixture of R-equol and S-equol enantiomers.

43. (new) The method according to Claim 39 wherein the mixture of equol is administered as a composition comprising a non-racemic mixture of R-equol and S-equol enantiomers.

44. (new) The method according to Claim 38 wherein the composition does not comprise a significant amount of any other androgen-receptor binding compound.